


MATERIAL SAFETY DATA SHEETS(MSDS)

| 1. Identification of the substance/preparation and of the company/undertaking | | | |
|---|---|--|---|
| A. Product name | AIR TOOL OIL CL-454 | C. Manufacturer / Supplier / Distributor Information | |
| | | <input type="radio"/> Manufacturer | GHI CO.,LTD |
| PART NUMBER | CL-454 | <input type="radio"/> Importer | |
| ITEM NUMBER | 004540-01 | Address | |
| General characteristics | Lubricant | <input type="radio"/> Supplier | GHI CO.,LTD |
| Hazard classification | Hazardous Substances | Address | 16Gil 6, Jinjang, BugKu, Ulsan, South Korea |
| B. Recommended use of the product and restrictions on use | Lubrication, rust prevention and moisture-proof protection of various air tools | TEL | +82-52-298-2259 (09:00~18:00) |
| | | E-mail | hq@ghi.cc |
| | | Date of draft | 11.30. 2003 |

| 2. Hazardous Ingredients | |
|--|---|
| A. Hazardous Classification : Acute toxicity (inhalation: dust / mist): Category 4 | |
| B. Label elements | |
| <input type="radio"/> Pictogram : |  |
| | <input type="radio"/> Signal word : Warning |
| <input type="radio"/> Hazard statement | H332 Harmful if inhaled. |
| <input type="radio"/> precautionary statements | <p>Prevention</p> <ul style="list-style-type: none"> - P261 Avoid breathing vapors, mist, or spray. - P271 Use only outdoors or in a well-ventilated area. <p>Response</p> <ul style="list-style-type: none"> - P304+P340 IN INHALED: Remove person to fresh air and keep comfortable for breathing. - P305+P351+P338 IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P312 Call a Poison Centre/doctor/... if you feel unwell. - P332+P313 If skin irritation occurs : Get medical advice/attention. - P337+P313 If eye irritation persists : Get medical advice/attention. - P362 Remove contaminated clothing and wash before reuse. - P363 Wash contaminated clothing before reuse. <p>Storage</p> <ul style="list-style-type: none"> - P403+P235 Store in a well-ventilated place. Keep cool. - P405 Store locked up. - P410+P411: Protect from sunlight. Do not expose to temperatures exceeding 40°C. <p>Disposal/ P501: Dispose of contents and container in accordance with local and national regulations.</p> |
| C. Other hazard which do not result in classification | NEPA (0~4 stage). Health-1 / Fire-4 / Reactivity-0 |

| 3. Composition / Information on Ingredients | | |
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| Ingredients | CAS NO. | Contents(%) |
| Hydrotreated (mild) heavy paraffinic distillate | 64742-54-7 | 80 ~ 90 |
| Others (Secret) | - | 10 ~ 20 |
| · Specific chemical identity and/or percentage of composition has been withheld as a trade secret. | | |

| 4. First Aid Measures | |
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| A. Eye Contact | Do not rub eyes. Wash eyes thoroughly with plenty of water for at least 20 minutes. Get medical attention immediately. |
| B. Skin Contact | In case of contact with substance, immediately wash out with plenty of soap and water for at least 20 minutes. Remove and isolate contaminated clothing and shoes. Wash clothing and shoes thoroughly before reuse. Get medical attention immediately. |
| C. Inhalation | Move exposed person to fresh air. If breathing is irregular or stops breathing, give artificial respiration and oxygen. Take necessary measures and seek medical attention immediately. |
| D. Ingestion (Swallowed) | Get medical advice about whether you should induce vomiting. Rinse mouth immediately with water. If swallowed, drink plenty of water and do not induce vomiting. Get medical attention immediately. |
| E. Indication of immediate medical attention and special treatment needed | Inform the healthcare personnel of the contamination situation and have them take appropriate protective measures. Get medical advice if exposure is concerned. Do not administer adrenaline. |

| 5. Fire-fighting Measures | |
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| A. Suitable extinguishing media: - Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO2 (suitable extinguishing agent) - Large fires: water spray / mist, regular foam (suitable extinguishing media) High pressure water injection (improper extinguishing media) | |
| B. Specific hazards arising from the chemical : - Can be ignited by heat, sparks and flames. - The container may explode on heating. - Some can ride, but not easily ignite - May cause irritation and toxic gas in case of fire. - Inhalation of the substance may be harmful. - Some liquid vapors may cause dizziness and suffocation. | |
| C. Special protective equipment and precautions for fire fighters: - Move container from fire area if it is not hazardous. - Some may be transported at high temperatures. Leachate may cause contamination. - Avoid skin and eye contact. - Cool containers with large amounts of water after a fire has extinguished. - Evacuate immediately if there is a high sound or discoloration on the pressure release device in the event of fire. | |

| 6. Accidental Release Measure | |
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| A. Personal precautions/ measures and equipments | - Remove all ignition sources. Stop the leak if it is not dangerous. - Pay attention to the materials and conditions to be avoided, and ventilate the contaminated area. |
| B. Environmental precautions | - Prevent entry into waterways, sewers, basements and confined areas. |
| C. Methods of cleaning up/ removing | - In case of small spills, flush contaminated area with plenty of water. - In case of small spills, absorb with sand or other non-combustible material and place in container. - Move the spill into a container away from the leak area. |

| 7. Handling and Storage | |
|--------------------------------|---|
| A. safety handling precaution | - Pay attention to the materials and conditions to avoid. - Wash thoroughly after handling. - Be careful of high temperatures. - Refer to engineering controls and personal protective equipment. - - Check the oxygen concentration before entering the place, because it may cause the oxygen concentration in the air to fall and cause suffocation in an enclosed space. - Be careful not to spill when you are in an enclosed area because of the risk of serious suffocation. - Do not spray because it evaporates faster. |
| B. Suitable storage conditions | - Store in a cool, dry, well-ventilated area. - Keep container tightly closed when not in use. - Pay attention to the materials and conditions to avoid. |

| 8. Exposure controls / personal protection | |
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| A. Component exposure limits | - National standard : N.E. - ACGIH : N.E. |
| B. Engineering controls | - Use process isolation, local exhaust ventilation or keep air levels below exposure limits. |
| C. Personal protective equipments | <input type="radio"/> Respiratory protection: Wear a respirator that has been approved by the Korean Occupational Safety and Health Administration in accordance with the physicochemical properties of the substance being exposed. |
| | <input type="radio"/> Eye protection: Wear protective glasses. |
| | <input type="radio"/> Hand protection: Wear protective gloves |
| | <input type="radio"/> Other: wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. |

| 9. Physical and chemical properties | | | |
|---|--------------------------|--|--------------------|
| A. Appearance (physical state, color..) | Liquid / Reddish brown | K. Vapor pressure | N.E. |
| B. Odor | Have a slight oil smell. | L. Solubility | Insoluble in water |
| C. Odor threshold | N.E. | M. Vapor density | N.E. |
| D. pH | N.E. | N. Specific gravity | 0.87~ 0.89 |
| E. Melting point/freezing point | N.A. | O. Partition coefficient (n-octanol/water) | N.E. |
| F. Initial boiling point and boiling range | N.E. | P. Auto-ignition temperature | N.E. |
| G. Flash point | 210 ~ 220°C | Q Decomposition temperature | N.E. |
| H. Evaporation rate | N.E. | R. Viscosity | 75 - 85 |
| I. Flammability (solid, gas) | Gas (flammable) | S. Molecular Weight | N.E. |
| J. Upper/lower flammability or explosive limits | N.E. | T. Percent volatile | N.E. |

| 10. Stability and Reactivity | |
|--|--|
| A. Chemical stability | - Stable at normal temperature and pressure. - The container may explode on heating. - Some can burn but are not easily ignited. - Inhalation of the substance may be harmful. - May cause irritation and toxic gas in case of fire. - Some fluids may cause dizziness, suffocation-producing vapors. |
| B. Possibility of hazardous polymerization | - Avoid sources of ignition (heat, sparks, flames, etc.). |
| C. Avoid condition (discharge of static electricity, shock, vibration) | - Avoid contact with heat, sparks, flames or other sources of ignition. |
| D. Avoid materials | - Combustible material. |
| E. Decomposition products | - N.A. |

| 11. Toxicological Information | |
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| A. Information for exposure route | <input type="radio"/> Inhalation/EYE&SKIN contact : May be absorbed into body's digestive system and skin by inhalation. |
| B. Information for health | <input type="radio"/> Acute toxicity Oral : N.A. Dermal : N.A. Inhalation : N.A. |
| | <input type="radio"/> Skin corrosion/irritation : N.A. |
| | <input type="radio"/> Serious eye damage/eye irritation : N.A. |
| | <input type="radio"/> Respiratory sensitization ; N.A. |
| | <input type="radio"/> Skin sensitization : N.A. |
| | <input type="radio"/> Carcinogenicity : N.A. IARC: N.A. OSHA: N.A. ACGIH: N.A. NTP: N.A. EU CLP: N.A. |
| | <input type="radio"/> Germ cell mutagenicity : N.A. |
| | <input type="radio"/> Reproductive toxicity: N.A. |
| | <input type="radio"/> Specific target organ toxicity -single exposure : N.A. |
| | <input type="radio"/> Specific target organ toxicity -repeated exposure : N.A. |
| <input type="radio"/> Aspiration hazard : N.A. | |

| 12. Ecological Information | |
|--------------------------------|---|
| A. Ecotoxicity | <input type="radio"/> Fish : N.A. <input type="radio"/> Crustacea : N.A. <input type="radio"/> Algae : N.A. |
| B. Persistence / degradability | <input type="radio"/> Persistence : N.A. <input type="radio"/> Degradability : N.A. |
| C. Bioaccumulative potential | <input type="radio"/> Bioaccumulation : N.A. <input type="radio"/> Biodegradable : N.A. |
| D. Soil mobility | <input type="radio"/> N.A. |
| E. Other adverse effects | <input type="radio"/> N.A. |

| 13. Disposal Considerations | |
|---|---|
| A. Disposal method | - Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. |
| B. Waste information (including waste method of contaminated container and packaging) - Dispose of container and unused contents in accordance with federal, state and local requirements. | |

| 14. Transport Information | |
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| A. UN number | - UN Transport Hazard Classification None. |
| B. UN proper shipping name | - N.A. |
| C. Transport hazard class | - N.A. |
| D. Packing group | - N.A. |
| E. Marine pollution | - N.A.. |
| F. Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises | - Emergency fire : N.A. |

| 15. Regulatory Information | |
|--|---|
| According to industrial Safety&health Act | <input type="radio"/> N.A. |
| According to Chemicals Control Law | - Toxic: N.A. - Emissions: subject to investigation - chemical material: N.A. - Accident preparation: N.A. - restriction: N.A. - permission: N.A. |
| According to Dangerous Substances Safety Management Act Enforcement Rule | - Applicable to hazardous materials: Class 4, 4th petroleum |
| According to Enforcement Decree of The wastes control Act | - Designated waste. |
| According to other regulations | <input type="radio"/> Residual organic matter management: N.A. <input type="radio"/> EU classification information - Confirmed classification result : Carc. Cat. 2; R45 - Risk phrases: R45 - Precaution phrases: S53, S45 <input type="radio"/> US Administration Information - OSHA (29CFR1910.119) : N.A. - CERCLA 103 (40CFR302.4) : N.A. - EPCRA 302 2 (40CFR355.30) : N.A. - EPCRA 304 304 (40CFR355.40) : N.A. - EPCRA 313 313 (40CFR372.65) : N.A. <input type="radio"/> Rotterdam Convention material : N.A. <input type="radio"/> Stockholm Convention material : N.A. <input type="radio"/> Montreal Protocol on Substances : N.A. |

16. Other Information

- A. Reference : This MSDS has been supplemented and written by a GHI CO., LTD (supplier) on May 30, 2018 in accordance with GHS (Globally Harmonized System of Classification and Labeling Chemicals). The source of the data is based on materials such as KOSHA, NITE, ESIS, NLM, SIDS, IPCS and NCIS.
- B. Date of draft: 11.30.2003
- C. Revision number and the latest version date : 4 / 05.30.2018
- D. This Material Safety Data Sheet(MSDS) may be changed or modified without prior notice due to product performance improvements or new technologies.

This MSDS is based on Article 39 (1) and Article 41 of the Industrial Safety and Health Act, Article 32 (2) of the Enforcement Decree of the same Act, Article 81 (1) of the Enforcement Rule, Article 92 (2) It is based on the classification of chemical substances, warning signs, material safety data to be prepared by the employer, and training for workers in accordance with Paragraph 2 of Schedule 11. A person who has been provided with information on the chemical substance pursuant to Article 20 (3) shall not use it for purposes other than therapeutic purposes or for the protection of workers' health, or disclose it to another person. We do not assume any technical or legal liability as a result of this.

B.S.= Business secrecy

N.A.= Not applicable

N.E.= Not established



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